

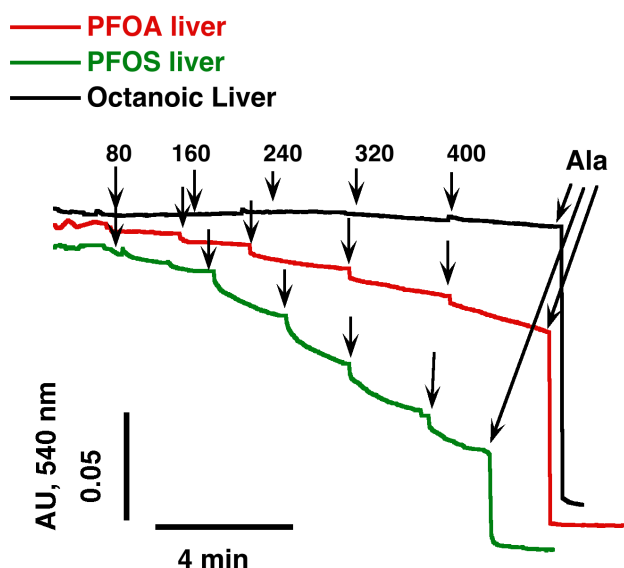
Metabolically inert perfluorinated fatty acids directly activate uncoupling protein 1 in brown-fat mitochondria

Archives of Toxicology

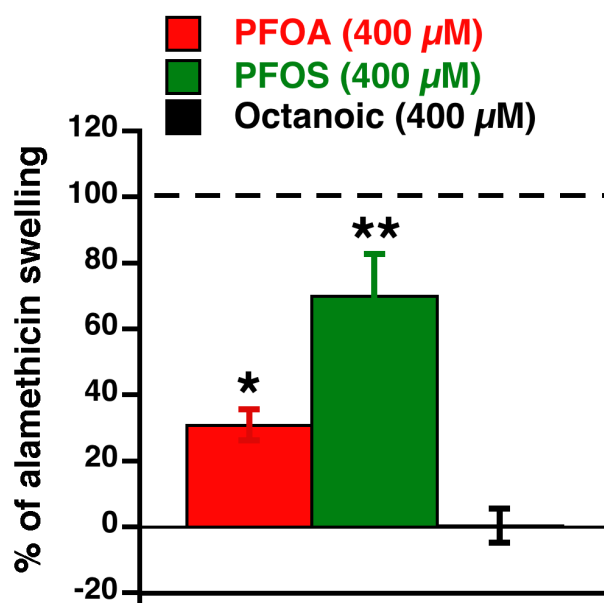
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a. Swelling in liver mitochondria



b. Magnitude of swelling



Online Resource 5

Effect of PFOA/PFOS on mitochondrial swelling in liver mitochondria.

(a) Representative traces showing the effects of PFOA, PFOS and octanoic acid on nonspecific mitochondrial permeabilisation in liver mitochondria isolated from wildtype mice. Glutamate (5 mM) and 2 mM malate were added before the start of the trace recording. Additions were 0.25 mg/ml liver mitochondria, and at the end 0.02 mg/ml alamethicin (Ala) (to allow for full mitochondrial permeabilisation). PFOA, PFOS and octanoic acid were successively added to final concentrations 80–400 μ M (each addition was 80 μ M and recorded during 2.0–2.5 min).

(b). Quantification of the amplitude of swelling 2 min after the final addition (400 μ M) of PFOA or PFOS or octanoic acid. Values are indicated in percent of the maximum response (defined as the absorbance difference between the starting value (0 concentration) and the value after alamethicin addition). The points are means \pm S.E. of 3–5 independent mitochondrial preparations. Difference between octanoic acid and other tested chemicals (* indicates $P < 0.05$, ** - $P < 0.01$)